

## Patent Claims

1. A fluoropolymer obtained by a process comprising:
  - (a) polymerizing one or more fluoromonomers by the aqueous emulsion polymerization process,
  - (b) removing from the so-obtained latex essentially all ions different than  $\text{NH}_4^+$ ,  $\text{H}^+$  and  $\text{OH}^-$  by contacting the latex with cation and anion exchange resins and
  - (c) coagulating the fluoropolymer essentially without addition of ions.
2. A fluoropolymer which is essentially free of extractable ions other than  $\text{NH}_4^+$ .
3. An ultraclean emulsion polymerized fluoropolymer comprising interpolymerized units derived from one or more fluoroolefin monomers, said fluoropolymer being essentially free of ions other than  $\text{NH}_4^+$ ,  $\text{H}^+$  and  $\text{OH}^-$ .
4. An ultraclean fluoropolymer according to claim 3 that contains less than 1000 parts per million of ions other than  $\text{NH}_4^+$ ,  $\text{H}^+$  and  $\text{OH}^-$ .
5. An ultraclean fluoropolymer according to claim 3 that is essentially free from organic acid acceptors.
6. An ultraclean fluoropolymer according to claim 3 that is a fluorothermoplastic.
7. An ultraclean fluoropolymer according to claim 3 that is a curable fluoroelastomer.

8. A curable fluoroelastomer according to claim 7 wherein the fluoropolymer contains interpolymers derived from a cure site monomer.
- 5 9. A curable fluoroelastomer according to claim 8 wherein the cure site monomer is selected from bromine containing or nitrile containing cure site monomers.
- 10 10. A peroxide-curable fluoroelastomer according to claim 9 wherein the cure site monomer is a bromine containing cure site monomer.
11. A peroxide-curable fluoroelastomer according to claim 7.
- 15 12. A peroxide-curable fluoroelastomer according to claim 11 further comprising an effective amount of a peroxide curative and, optionally, an effective amount of a coagent.
- 20 13. A peroxide curable fluoroelastomer according to claim 12 that is essentially free of organic acid acceptors.
14. A peroxide curable fluoroelastomer according to claim 12 further comprising a fluoropolymer filler.
- 25 15. A curable fluoroelastomer according to claim 9 wherein the cure site monomer is a nitrile containing cure site monomer.
- 30 16. A curable fluoroelastomer according to claim 15 further comprising an effective amount of an ammonia generating cure system and, optionally a fluoropolymer filler.